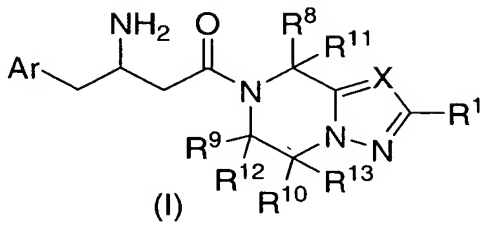
WHAT IS CLAIMED IS:

1. A compound of the formula I:



(I)

or a pharmaceutically acceptable salt thereof; wherein
each n is independently 0, 1, or 2;
X is N or CR^2;

Ar is phenyl substituted with one to five R^3 substituents;

R^1 and R^2 are each independently selected from the group consisting of
hydrogen,
halogen,
cyano,
C_{1-10} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens,
C_{1-10} alkoxy, wherein alkoxy is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,
C_{1-10} alkylthio, wherein alkylthio is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,
C_{2-10} alkenyl, wherein alkenyl is unsubstituted or substituted with one to five substituents independently selected from halogen or hydroxy,
$(CH_2)_nCOOH$,
$(CH_2)_nCOOC_{1-6}$ alkyl,
$(CH_2)_nCONR^4R^5$, wherein R^4 and R^5 are independently selected from the group consisting of hydrogen, tetrazolyl, thiazolyl, $(CH_2)_n$-phenyl, $(CH_2)_n$-C_{3-6} cycloalkyl, and C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen,

hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

or R^4 and R^5 together with the nitrogen atom to which they are attached form a heterocyclic ring selected from azetidine, pyrrolidine, piperidine, piperazine, and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

$(CH_2)_n$-NR^4R^5,

$(CH_2)_n$-$OCONR^4R^5$,

$(CH_2)_n$-$SO_2NR^4R^5$,

$(CH_2)_n$-SO_2R^6,

$(CH_2)_n$-$NR^7SO_2R^6$,

$(CH_2)_n$-$NR^7CONR^4R^5$,

$(CH_2)_n$-NR^7COR^7,

$(CH_2)_n$-$NR^7CO_2R^6$,

$(CH_2)_n$-COR^6,

$(CH_2)_n$-aryl, wherein aryl is unsubstituted or substituted with one to five substituents independently selected from halogen, CN, hydroxy, $NR^7SO_2R^6$, SO_2R^6, CO_2H, C_{1-6} alkyloxycarbonyl, C_{1-6} alkyl and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five substituents independently selected from halogen, CO_2H, and C_{1-6} alkyloxycarbonyl,

$(CH_2)_n$-heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three substituents independently selected from hydroxy, halogen, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-C_{3-6} cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens; and

wherein any methylene (CH_2) carbon atom in R^1 or R^2 is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C_{1-4} alkyl unsubstituted or substituted with one to five halogens;

each R^3 is independently selected from the group consisting of
hydrogen,
halogen,
cyano,
hydroxy,
C_{1-6} alkyl, unsubstituted or substituted with one to five halogens, and
C_{1-6} alkoxy, unsubstituted or substituted with one to five halogens;

R^6 is independently selected from the group consisting of tetrazolyl, thiazolyl, $(CH_2)_n$-phenyl, $(CH_2)_n$-C_{3-6} cycloalkyl, and C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens, and wherein any methylene (CH_2) carbon atom in R^6 is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, C_{1-4} alkyl, and C_{1-4} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

each R^7 is hydrogen or R^6;

R^8, R^9, R^{10}, R^{11}, R^{12}, and R^{13} are each independently selected from the group consisting of:
hydrogen,
cyano,
$(CH_2)_nCOOH$,
$(CH_2)_nCOOC_{1-6}$ alkyl, wherein alkyl is unsubstituted or substituted with one to three substituents independently selected from halogen and phenyl,
C_{1-10} alkyl, unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkoxy, carboxy, C_{1-6} alkyloxycarbonyl, and phenyl-C_{1-3} alkoxy, wherein alkoxy is unsubstituted or substituted with one to five halogens,
$(CH_2)_n$-aryl, wherein aryl is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy,

wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three substituents independently selected from hydroxy, halogen, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

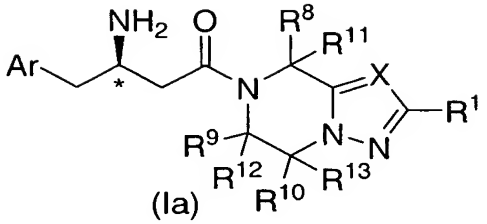
$(CH_2)_n$-C_{3-6} cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_nCONR^4R^5$, wherein R^4 and R^5 are independently selected from the group consisting of hydrogen, tetrazolyl, thiazolyl, $(CH_2)_n$-phenyl, $(CH_2)_n$-C_{3-6} cycloalkyl, and C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;

or wherein R^4 and R^5 together with the nitrogen atom to which they are attached form a heterocyclic ring selected from azetidine, pyrrolidine, piperidine, piperazine and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens; and

wherein any methylene (CH_2) carbon atom in R^8, R^9, R^{10}, R^{11}, R^{12}, or R^{13} is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C_{1-4} alkyl unsubstituted or substituted with one to five halogens.

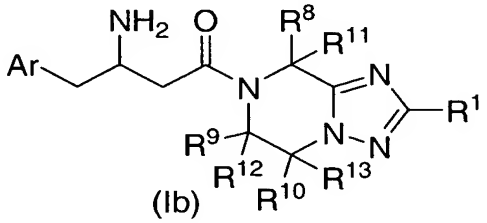
2. The compound of Claim 1 of the formula Ia:



(Ia)

wherein the carbon atom marked with an * has the *R* configuration and Ar, X, R^1, R^8, R^9, R^{10}, R^{11}, R^{12}, and R^{13} are as defined in Claim 1.

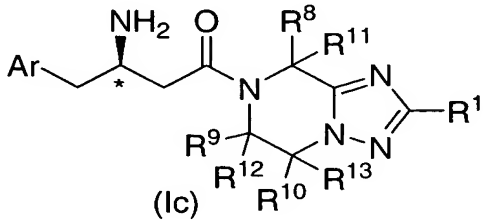
3. The compound of Claim 1 of the formula Ib:



(Ib)

wherein Ar, R^1, R^8, R^9, R^{10}, R^{11}, R^{12}, and R^{13} are as defined in Claim 1.

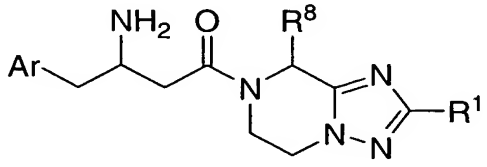
4. The compound of Claim 3 of the formula Ic:



(Ic)

wherein the carbon atom marked with an * has the *R* configuration and Ar, R^1, R^8, R^9, R^{10}, R^{11}, R^{12}, and R^{13} are as defined in Claim 1.

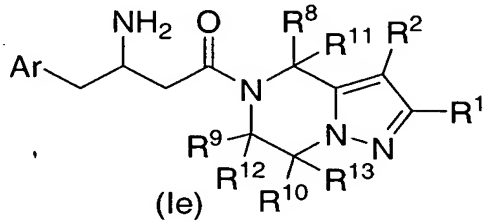
5. The compound of Claim 3 of the formula Id:



(Id)

wherein Ar, R^1, and R^8 are as defined in Claim 1.

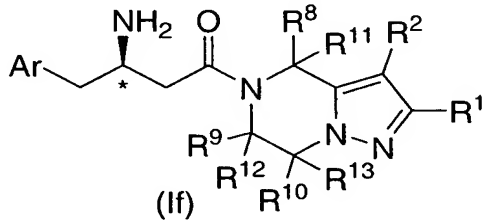
6. The compound of Claim 1 of the formula Ie:



(Ie)

wherein Ar, R^1, R^2, R^8, R^9, R^{10}, R^{11}, R^{12}, and R^{13} are as defined in Claim 1.

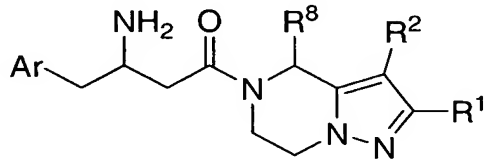
7. The compound of Claim 6 of the formula If:



(If)

wherein the carbon atom marked with an * has the *R* configuration and Ar, R^1, R^2, R^8, R^9, R^{10}, R^{11}, R^{12}, and R^{13} are as defined in Claim 1.

8. The compound of Claim 6 of the formula Ig:



(Ig)

wherein Ar, R^1, R^2, and R^8 are as defined in Claim 1.

9. The compound of Claim 1 wherein R^3 is selected from the group consisting of hydrogen, fluoro, chloro, bromo, trifluoromethyl, and methyl.

10. The compound of Claim 9 wherein R^3 is selected from the group consisting of hydrogen, fluoro, and chloro.

11. The compound of Claim 10 wherein R^3 is hydrogen or fluoro.

12. The compound of Claim 1 wherein R^1 is selected from the group consisting of:

hydrogen,

C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five fluorines,

$(CH_2)_n$-phenyl wherein phenyl is unsubstituted or substituted with one to five substituents independently selected from hydroxy, halogen, C_{1-6} alkyl, C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

C_{3-6} cycloalkyl, unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens; and

wherein any methylene (CH_2) carbon atom in R^1 is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C_{1-4} alkyl unsubstituted or substituted with one to five halogens.

13. The compound of Claim 12 wherein R^1 is selected from the group consisting of

hydrogen,
methyl,
ethyl,
difluoromethyl,
trifluoromethyl,
CH_2CF_3,
CF_2CF_3,
phenyl, and
cyclopropyl.

14. The compound of Claim 13 wherein R^1 is selected from the group consisting of hydrogen, difluoromethyl, trifluoromethyl, phenyl, and cyclopropyl.

15. The compound of Claim 1 wherein R^2 is selected from the group consisting of

hydrogen,
C_{1-6} alkyl, unsubstituted or substituted with one to five fluorines,
phenyl, unsubstituted or substituted with one to three substituents independently selected from fluoro, chloro, trifluoromethyl, methoxy, and OCF_3, and
C_{3-6} cycloalkyl, unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens.

16. The compound of Claim 15 wherein R^2 is selected from the group consisting of hydrogen, trifluoromethyl, phenyl, and cyclopropyl.

17. The compound of Claim 16 wherein R^2 is hydrogen or trifluoromethyl.

18. The compound of Claim 1 wherein R^{11}, R^{12}, and R^{13} are each hydrogen and R^8, R^9, and R^{10} are each independently selected from the group consisting of:
hydrogen,
C_{1-6} alkyl, unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkoxy, and phenyl-C_{1-3} alkoxy, wherein alkoxy is unsubstituted or substituted with one to five halogens,
$(CH_2)_nCOOH$,
$(CH_2)_nCOOC_{1-6}$ alkyl, wherein alkyl is unsubstituted or substituted with one to three substituents independently selected from halogen and phenyl,
$(CH_2)_nCONR^4R^5$, wherein R^4 and R^5 are independently selected from the group consisting of hydrogen, tetrazolyl, thiazolyl, $(CH_2)_n$-phenyl, $(CH_2)_n$-C_{3-6} cycloalkyl, and C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens and wherein phenyl and cycloalkyl are unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens;
or wherein R^4 and R^5 together with the nitrogen atom to which they are attached form a heterocyclic ring selected from azetidine, pyrrolidine, piperidine, piperazine and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen,

hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-phenyl, wherein phenyl is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three substituents independently selected from hydroxy, halogen, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-C_{3-6} cycloalkyl, wherein cycloalkyl is unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are optionally substituted with one to five halogens; and

wherein any methylene (CH_2) carbon atom in R^8, R^9 or R^{10} is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C_{1-4} alkyl unsubstituted or substituted with one to five halogens.

19. The compound of Claim 18 wherein R^8, R^9, and R^{10} are each independently selected from the group consisting of:

hydrogen,

C_{1-3} alkyl, unsubstituted or substituted with one to three substituents independently selected from halogen, hydroxy, C_{1-6} alkoxy, and phenyl-C_{1-3} alkoxy, wherein alkoxy is unsubstituted or substituted with one to five halogens,

$(CH_2)_nCOOH$,

$(CH_2)_nCOOC_{1-6}$ alkyl, wherein alkyl is unsubstituted or phenyl,

$(CH_2)_nCONR^4R^5$, wherein R^4 and R^5 are independently selected from the group consisting of hydrogen and C_{1-6} alkyl, wherein alkyl is unsubstituted or substituted with one to five halogens;

or wherein R^4 and R^5 together with the nitrogen atom to which they are attached form a heterocyclic ring selected from azetidine, pyrrolidine, piperidine,

piperazine and morpholine wherein said heterocyclic ring is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-phenyl, wherein phenyl is unsubstituted or substituted with one to five substituents independently selected from halogen, hydroxy, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are unsubstituted or substituted with one to five halogens,

$(CH_2)_n$-heteroaryl, wherein heteroaryl is unsubstituted or substituted with one to three substituents independently selected from hydroxy, halogen, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are optionally substituted with one to five halogens,

$(CH_2)_n$-heterocyclyl, wherein heterocyclyl is unsubstituted or substituted with one to three substituents independently selected from oxo, hydroxy, halogen, C_{1-6} alkyl, and C_{1-6} alkoxy, wherein alkyl and alkoxy are optionally substituted with one to five halogens,

$(CH_2)_n$-C_{3-6} cyclopropyl; and

wherein any methylene (CH_2) carbon atom in R^8, R^9 or R^{10} is unsubstituted or substituted with one to two groups independently selected from halogen, hydroxy, and C_{1-4} alkyl unsubstituted or substituted with one to five halogens.

20. The compound of Claim 19 wherein R^8, R^9, and R^{10} are each independently selected from the group consisting of:

hydrogen,

CH_3,

CH_2CH_3,

CH_2-cyclopropyl,

CHF-cyclopropyl,

CH(OH)-cyclopropyl,

CH_2OCH_2Ph,

CH_2(4-F-Ph),

CH_2(4-CF_3-Ph),

CH_2-[1,2,4]triazol-4-yl,

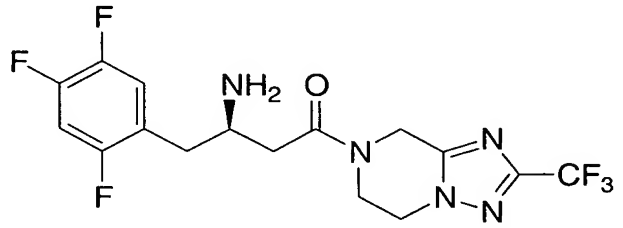
CH_2-(imidazol-1-yl),

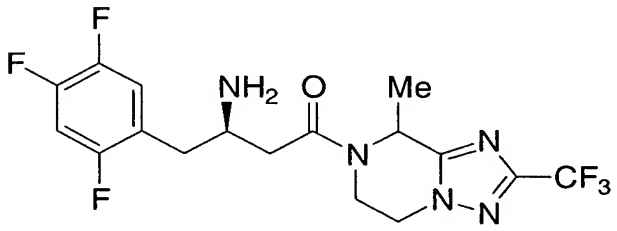
CH_2-(pyrazol-1-yl),

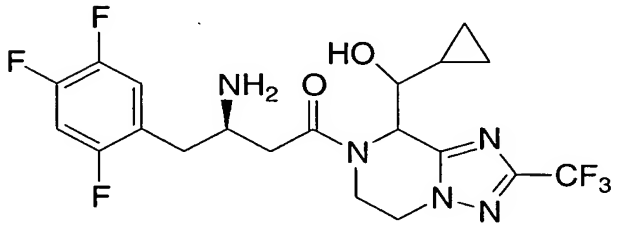
CH_2-$COOCH_2Ph$,
CH_2-COOH,
CH_2-$CONMe_2$, and
CH_2OCH_3.

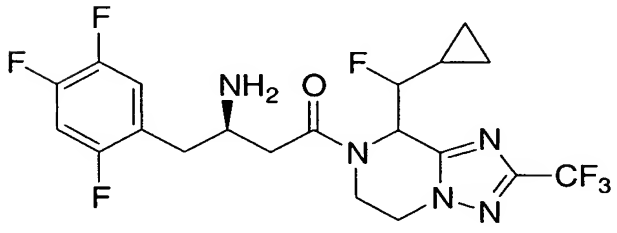
21. The compound of Claim 20 wherein R^9 and R^{10} are each independently hydrogen or methyl.

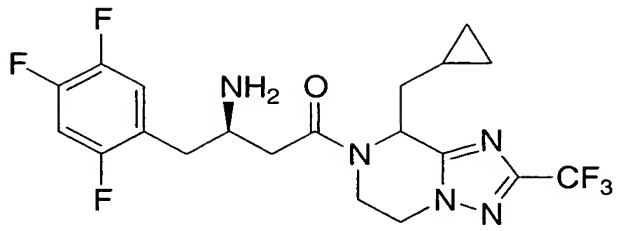
22. The compound of Claim 4 which is selected from the group consisting of:

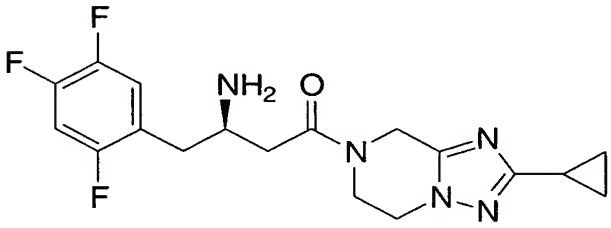


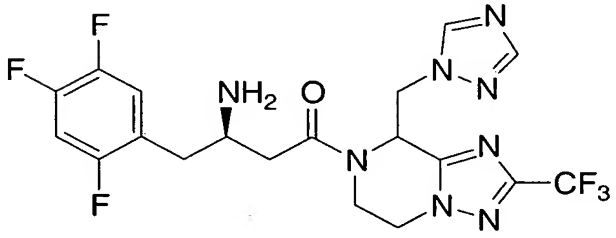


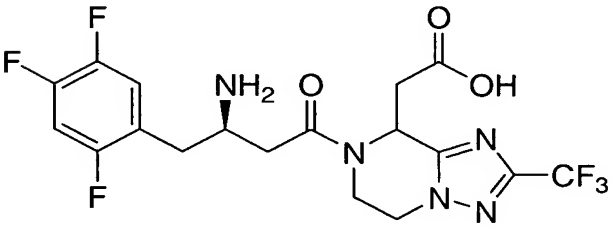


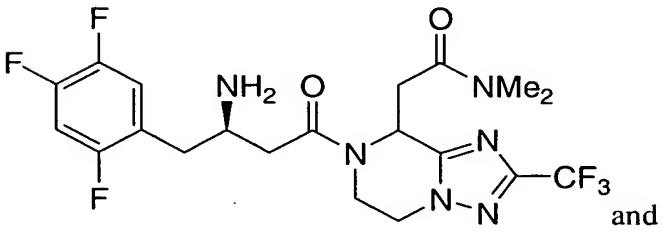


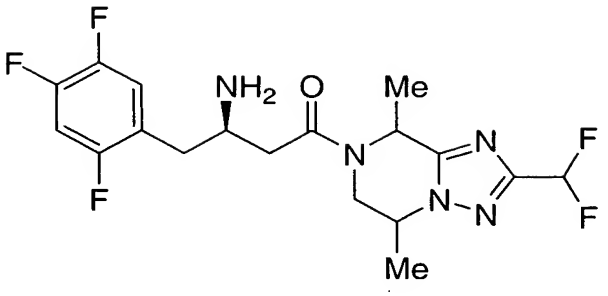






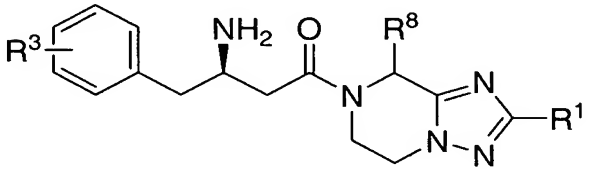



and



or a pharmaceutically acceptable salt thereof.

23. The compound of Claim 4 of the structural formula selected from the group consisting of:



R^3	R^8	R^1
2-F,5-F	H	CF_3
2-F,4-F,5-F	CH_2(4-CF_3-Ph)	CF_3
2-F,4-F,5-F	CH_2(4-F-Ph)	CF_3
3-F,4-F	CH_2(4-F-Ph)	CF_3
3-F,4-F	CHOH(cPr)	CF_3
2-F,4-F,5-F	H	CF_3
2-F,4-F,5-F	CH_2OCH_2Ph	CF_3
3-F,4-F	CH_2(1,2,4-triazol-1-yl)	CF_3
2-F,4-F,5-F	CH_2(imidazol-	CF_3

	1-yl)	
2-F,4-F,5-F	CH_2(pyrazol-1-yl)	CF_3
2-F,5-F	Me	CF_3
2-F,4-F,5-F	$CH_2CO_2CH_2Ph$	CF_3
2-F,4-F,5-F	H	CHF_2
2-F,4-F,5-F	Me	CHF_2
2-F,4-F,5-F	CH_2OMe	CF_3

24. A pharmaceutical composition which comprises a compound of Claim 1 and a pharmaceutically acceptable carrier.

25. A method for inhibiting dipeptidyl peptidase-IV enzyme activity in a mammal in need thereof which comprises the administration to the mammal of an effective amount of a compound of Claim 1.

26. A method for treating or controlling diabetes in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

27. A method for treating or controlling non-insulin dependent (Type 2) diabetes in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

28. A method for treating or controlling hyperglycemia in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

29. A method for treating or controlling obesity in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

30. A method for treating or controlling one or more lipid disorders selected from the group of dyslipidemia, hyperlipidemia, hypertriglyceridemia, hypercholesterolemia, low HDL and high LDL in a mammal in need thereof which comprises the administration to the mammal of a therapeutically effective amount of a compound of Claim 1.

31. A method for treating or controlling in a mammal in need thereof one or more conditions selected from the group consisting of (1) hyperglycemia, (2) low glucose tolerance, (3) insulin resistance, (4) obesity, (5) lipid disorders, (6) dyslipidemia, (7) hyperlipidemia, (8) hypertriglyceridemia, (9) hypercholesterolemia, (10) low HDL levels, (11) high LDL levels, (12) atherosclerosis and its sequelae, (13) vascular restenosis, (14) irritable bowel syndrome, (15) inflammatory bowel disease, including Crohn's disease and ulcerative colitis, (16) other inflammatory conditions, (17) pancreatitis, (18) abdominal obesity, (19) neurodegenerative disease, (20) retinopathy, (21) nephropathy, (22) neuropathy, (23) Syndrome X, (24) ovarian hyperandrogenism (polycystic ovarian syndrome), and other disorders where insulin resistance is a component, wherein the method comprises the administration to the mammal a therapeutically effective amount of a compound of Claim 1.

32. The pharmaceutical composition of Claim 24 further comprising one or more additional active ingredients selected from the group consisting of:

(a) a second dipeptidyl peptidase IV inhibitor;

(b) an insulin sensitizer selected from the group consisting of a PPARγ agonist, a PPARα/γ dual agonist, a PPARα agonist, a biguanide, and a protein tyrosine phosphatase-1B inhibitor;

(c) an insulin or insulin mimetic;

(d) a sulfonylurea or other insulin secretagogue;

(e) an α-glucosidase inhibitor;

(f) a glucagon receptor antagonist;

(g) GLP-1, a GLP-1 mimetic, or a GLP-1 receptor agonist;

(h) GIP, a GIP mimetic, or a GIP receptor agonist;

(i) PACAP, a PACAP mimetic, or a PACAP receptor agonist;

(j) a cholesterol lowering agent such as (i) HMG-CoA reductase inhibitor, (ii) sequestrant, (iii) nicotinyl alcohol, nicotinic acid or a salt thereof, (iv) PPARα agonist, (v) PPARα/γ dual agonist, (vi) inhibitor of cholesterol absorption, (vii) acyl CoA:cholesterol acyltransferase inhibitor, and (viii) anti-oxidant;

(k) a PPARδ agonist;

(l) an antiobesity compound;

(m) an ileal bile acid transporter inhibitor; and

(n) an anti-inflammatory agent.

33. The pharmaceutical composition of Claim 32 wherein the PPARα/γ dual agonist is KRP-297.

34. A method of controlling or treating diabetes in a mammal in need thereof comprising administering to the mammal a therapeutically effective amount of a compound of Claim 1 in combination with the PPARα/γ dual agonist KRP-297.